

IN THE DRAWINGS:

Submitted herewith for approval by the examiner is one Replacement Sheet of drawings. No new matter has been added.

REMARKS

The Office action dated September 23, 2005, and the references cited therein have been received and carefully reviewed.

As a result of the Office action, Figure 2 is objected to for containing typographical errors. Submitted herewith for approval by the examiner is a Replacement Sheet of drawings, in which reference numeral 40 is changed to 41 in Figures 2(A)-(C). No new matter has been added.

Moreover, claims 1-13 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamaoka. And, claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamaoka in view of Kikuchi. These references have been carefully reviewed but are not believed to show or suggest Applicant's claimed invention in any manner. Reconsideration and allowance of the pending claims is therefore respectfully requested in view of the following remarks.

According to MPEP 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Moreover, according to MPEP 2143.03, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior

art. In this case, the examiner has taken a position that Hamaoka discloses a sensor 15 arranged and constructed to detect a change of direction of the magnetic field and to output signals representing a relative rotational angle (see col. 1, lines 27-36). However, Applicant respectfully disagrees with the examiner's reading of that reference. Hamaoka teaches a magnetic detection element 15 such as a Hall IC provided in the magnetic flux detection gap portion 14. The magnetic flux density crossing the magnetic detection element 15 changes in proportion to the angular position of the rotor core 11, and since output of the magnetic detection element 15 changes in proportion to the magnetic flux density, the angular position of the rotor core 11 (angular position of the throttle valve) is detected based on the output of the magnetic detection element.

As required by the claimed invention, in order to detect the direction of the magnetic field, the magnets may produce a substantial uniform magnetic field represented by substantially parallel, unidirectional, magnetic field lines. As best seen in Fig. 2(A) of the present specification, the magnetic field lines produced by magnets 20 and 30 extend substantially parallel to each other and are distributed uniformly across a sensor 41 attached to a support member 40.


Therefore, the sensor can reliably detect the change of the rotational position of the support member 40, and eventually the rotational position of the rotary shaft 3.

The angular position detector of Hamaoka cannot detect a direction of the magnetic field. As shown in FIG. 12(A), Hall ICs 31 are positioned between two magnetic stator cores 25 (see paragraph [0021]). Therefore, the direction of the magnetic lines across the Hall ICs 31 may not change in response to the rotational position of the rotor core 24. Thus, because the Hall ICs 32 are positioned between the stator cores 25, the direction of the magnetic line positions does not change irrespective of rotation of the rotor core 24.

Moreover, the examiner has also taken a position that the Hall IC of the Hamaoka detector may include an offset adjustment (see paragraph [0028]). However, Applicant respectfully submits that Hamaoka is silent as to the details of the offset adjustment and, more specifically, with respect to the limitation that the angle is determined such that an error of the output signal from the sensor due to an offset of a location of the sensor away from the center of the rotation is less than a predetermined value. Therefore, in view of the foregoing, it is respectfully submitted that the claimed invention is patentable over the prior art.

Each issue raised in the Office action dated September 23, 2005, has been addressed and it is believed that claims 1-19 are in condition for allowance. Wherefore, Applicant respectfully requests a timely Notice of Allowance be issued in this case.

Respectfully submitted,
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